6. (amended) The composition of claim 5 wherein the polymer is selected from the group consisting of proteins, polysaccharides, extracellular matrix proteins[;] , polyesters[;] , polycapralactone[;] , polyhydroxybutyrate[;] , polyanhydrides[;] , polyphosphazenes[;] , polyorthoesters, polyurethanes, and combinations thereof.

9. (amended) The composition of claim 1 wherein the growth effector molecules are selected from the group consisting of epidermal growth factor, platelet-derived growth factor, transforming growth factor, hepatocyte growth factor, heparin binding factor, insulin-like growth factor I or II, fibroblast growth factor, erythropoietin, nerve growth factor, bone morphogenic proteins, muscle morphogenic proteins, extracellular matrix molecules, and combinations thereof.

13. (amended) A method for growing eukaryotic cells comprising

bringing into contact the cells and a composition comprising

a biocompatible solid substrate,

biocompatible polymeric tethers, and

growth effector molecules,

wherein one end of each tether is covalently linked to the substrate and each growth effector molecule is covalently linked to a distal end of a tether so that the growth effector molecule cannot be internalized by cells attached to the substrate, and the growth effector

molecules are attached to the substrate in a concentration effective to enhance the rate of target cell growth without internalization of the molecules; and

maintaining the contacting cells and composition under conditions and for a time sufficient to cause the cells to grow.

25. (amended) The method of claim 13 wherein the growth effector molecules are selected from the group consisting of epidermal growth factor, platelet-derived growth factor, transforming growth factor, hepatocyte growth factor, heparin binding factor, insulin-like growth factor I or II, fibroblast growth factor, erythropoietin, nerve growth factor, bone morphogenic proteins, muscle morphogenic proteins, extracellular matrix molecules, and combinations thereof.

29. (amended) The method of claim 13 wherein the cells are selected [form] from the group consisting of parenchymal cells and stem cells.

31. (amended) A cell culture comprising

a biocompatible solid substrate,

biocompatible polymeric tethers,

growth effector molecules, and

growing cells.

wherein one end of each tether is covalently linked to the substrate and each growth effector molecule is covalently linked to a distal end of a tether so that the growth effector molecule cannot be internalized by cells attached to the substrate, and the growth effector molecules are attached to the substrate in a concentration effective to enhance the rate of target cell growth without internalization of the molecules, and wherein the growing cells are bound to the growth effector molecules.

32. (amended) A method of testing a compound for an effect on tissue comprising

bringing into contact the compound to be tested and a composition comprising

a biocompatible solid substrate,

biocompatible polymeric tethers,

growth effector molecules, and

growing cells,

wherein one end of each tether is covalently linked to the substrate and each growth effector molecule is covalently linked to a distal end of a tether so that the growth effector molecule cannot be internalized by cells attached to the substrate, and the growth effector molecules are attached to the substrate in a concentration effective to